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(71) Applicant and
(72) Inventor: **FOALE, Thomas, Reginald** [GB/GB]; 8 Green Dragon Lane, Flackwell Heath HP10 9JU (GB).

(74) Agent: **PIKE, Christopher, Gerard**; Pike & Co., Hayes Loft, 68A Hayes Place, Marlow, Buckinghamshire SL7 2BT (GB).

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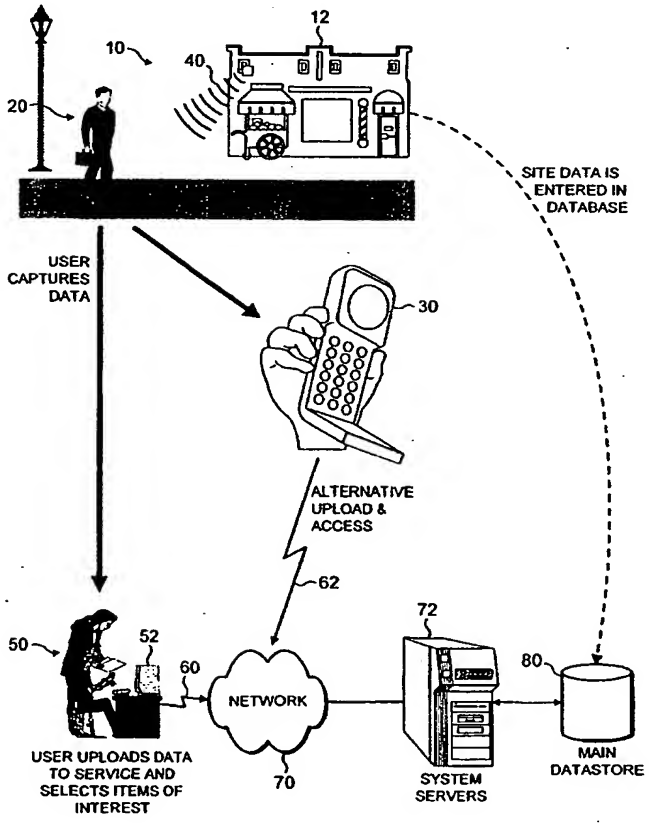

(57) **Abstract:** There is provided a personal data capture system for locally capturing information relevant to a particular location comprising a network computer system having specifiable network addresses; at a location remote from said network computer system, a electronic data capture device for locally capturing data relevant to the location; a communicator for communicating with an entrypoint to said network computer system to enable transfer of said data to a user network address of the network computer system, wherein said network address is specific to the user; and a secure access gateway enabling the user to access the data at said user-specific network address.

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Data capture and access system

The present invention relates to a system for capturing information relevant to a geographic location and enabling access to the captured data.

It is an everyday experience that whilst out and about on daily business an individual visits or views a particular location and wishes to capture information about that location for later use. The location may be for example, an advertising hoarding, a shopfront, a roadsign or a restaurant menu-board. To enable a revisit or review the individual might also wish to capture information relating to the location itself e.g. which street the shop is on and the number of the street. It may also be desirable to record the date and time of visit or viewing.

To capture the information the individual might seek to memorise it, or make a note of it on a scrap of paper or input the information into a personal data organiser. None of these methods is entirely satisfactory. Information placed in the human memory is easily lost, as is a scrap of paper, particularly where the individual is on a busy schedule. More detailed and systematic data capture may be too time-consuming or impossible for example, if the shopfront is seen through the window of a moving vehicle.

The Applicants have now developed a system, device and method to enable more effective data capture for ease of later access. The development provides the advantages of ready electronic data capture and the ability to access the data via a central or distributed computer system.

According to one aspect of the present invention there is provided a data capture and access system for locally capturing information relevant to (or associated with) a geographic location and enabling access thereto comprising a network computer system having specifiable network addresses; remote from said network computer system, an electronic data capture device for locally capturing data relevant to the geographic location; a communicator for communicating with an entrypoint to said network computer system to enable transfer of said data to a user network address of the network computer system, wherein said network

address is specific to the user; and a secure access gateway enabling the user to access the data at said user-specific network address.

The data capture is in one aspect arranged to be automatic. That is to say the data capture requires no particular manual data entry step (e.g. no keying-in or writing down or note-taking step) but rather is a function of the operation of the electronic data capture device e.g. by interaction in some way with a local data source at the geographic location. The device is typically a personal (e.g. hand held or personal vehicle-associated) device. The data capture may occur in response to a user-initiated action (e.g. a request for data capture to occur).

The electronic data capture device is in one aspect configured to be an 'active' device which includes a data storage capability and optionally, but preferably, location determining means such as a geographic positioning system as described hereinafter. In this aspect, captured and/or determined location data is stored on the device for later communication to the network computer system.

In another aspect the electronic data capture device is configured to be a 'passive device' wherein the communicator (e.g. of the type described hereinafter) establishes a communications link with a service (i.e. remotely located) which provides location determining means and a data storage capability. In this aspect, captured and/or determined location data may be stored remotely on a network computer system of the service provider, or on the device. In a preferred aspect, the data is stored on the network computer system of the service provider, but is accessible through a gateway to the network computer system of the service provider.

By remote it is meant that the electronic data capture device is physically, and potentially geographically distant from the entrypoint to the network computer system. In use, the data capture device is however local to the geographic location of interest. In embodiments, it is envisaged that the user data capture system is designed to be kept under the control of the user e.g. it may be worn by the user or be a handheld device always carried by the user. Examples of user-wearable devices would include belt attachable devices, devices in the form of watches for wrist or leg attachment and devices attachable as jewellery.

Suitable body attachment means will be incorporated as required. In other embodiments, the electronic data capture device may be vehicle-mounted.

In one aspect, the communicator is arranged to be local to the user or the vehicle of the user, for example being integral with the electronic data capture system, or within another handheld device carried by the user. By local it is generally meant that the electronic data capture device is in the vicinity of, or in the locale of the geographic location of interest. Practically, this might translate to the device being within the 'line of sight' of the geographic location, thereby enabling local capture of visual data or within the 'line of transmission' of a local transmitter (e.g. a radio transmitter) which is located at the geographic location of interest. The communicator may for example, be in a device which mechanically coupled to a device housing the user data capture system by any suitable mechanical mechanism including grip mechanisms and snap-fit mechanisms. In one aspect, the data communicator forms a snap-in module and the device housing the user data capture system is shaped for receipt of the module.

In one aspect, the communicator is located at a local 'base station' such as the home, place of work of the user or a public computer access point. In this aspect, geographic data will typically be captured and stored within the electronic data capture device whilst the user is out and about and subsequently downloaded via the communicator to the network computer system once the user visits the 'base station'.

The network computer system can take a number of forms. In one aspect it comprises a user's local network computer system (e.g. a home or office local area network comprising one or more personal computers or other electronic computing devices, linked either through a network server or via peer to peer links). In another aspect, the network computer system, is located at, and under the control of a network services provider such as an Internet service provider. It is an advantage of the system herein, that the network computer system may be located geographically distant from the data capture system.

User access to the network computer system (e.g. for retrieval and processing of captured geographic location data) may be through a user portal which forms part of a local network system, or through a portal accessible via the Internet (e.g. one managed by an Internet Services Provider or other portal manager).

In one aspect, the communicator communicates wirelessly with said entrypoint to the network computer system.

In another aspect, the communicator communicates via a wired link with said entrypoint to the network computer system.

Suitably, the data is communicable between the electronic data capture device and the user-specific network address of the network computer system in encrypted form. All suitable methods of encryption or partial encryption are envisaged. Password protection may also be employed.

In one aspect, the data is continuously communicable between the electronic data capture device and the user-specific network address of the network computer system.

In another aspect, the data is communicable in packet form between the electronic data capture device and the user-specific network address of the network computer system. A suitable protocol would be the Wireless Access Protocol (WAP).

Suitably, the secure access gateway is password protected.

Suitably, the electronic data capture device captures optical or visual data relating to the geographic location. The device suitably comprises an optical or visual data capture means such as a digital camera. The device may also comprise an optical character recognition capability such that any characters which are optically recorded may be recognised as words, phrases or logos. The so-recognised words, phrases or logos may be associated with particular business areas or brands and appropriate business or brand identifiers assigned.

In addition to the local capture of (primary) data relevant to the geographic location, the electronic data capture device may also record other (i.e. secondary) data relevant to local data capture step. This secondary data may be integrated with the primary data by the electronic data capture device.

Suitably, the electronic data capture device is also provided with geographic positioning data, which may be provided continuously, or only in response to an automatic or user-generated trigger. The device suitably comprises a geographic positioning system such as a global positioning system or a global system which relies on the use of multiple communications signals and a triangulation algorithm. This capture of geographic positioning data via a global system of this type is however separate from (but may as a later step be associated with) the local capture of data relevant to the geographic location. Preferably, the geographic positioning system associates a geographic identifier with the location of interest on local capture of data relating thereto.

Suitably, the device records device orientation data. Suitably, the device comprises a device orientation determining system, that is to say a system for determining the orientation of the device relative to a fixed axis (e.g. relative to a compass axis). A digital compass is an example of such an orientation determining system. Preferably, the device orientation system assigns an orientation identifier specific to the orientation of the device at the time of local capture of data relating to the location of interest.

Suitably, the device records date and time data relevant to the local data capture. The device suitably comprises a date and time recordal system. Preferably, the date and time recordal system assigns a date and/or time identifier specific to the date and/or time of capture of data relating to the location of interest.

Suitably, information from one or more (non-user specific) reference databases is made available at the user-specific network address. Preferably, the reference databases comprises data relating to the location. For example, if the location is the shopfront of a pizza restaurant the reference database may make menu

information, booking availability or location of parking space information available. The reference databases may be accessed by reference to any assigned geographic identifier relevant to the geographic position of interest (e.g. grid reference or zip-code).

In one aspect, the one or more reference databases comprise data arranged by reference to location. Thus, for a particular town or city a location reference database may be arranged geographically (e.g. split up into particular streets or by reference cells or blocks of defined geographic area).

In a preferred aspect, the system is configured to provide a link between any identifier assigned by the electronic data capture device and any datapoint or group of datapoints within the one or more reference databases.

The system may be arranged such that the user looks up a particular set of captured data and the system offers one or more links to reference databases relevant to the captured data. In one example, the identifier is a geographic identifier and the link is a geographic link to a reference database specific to that geographic location (e.g. providing transport, shopping etc. data). In another example, the identifier is a business or brand identifier and the link is a business or brand link to a reference database specific to that business area or brand type.

Any reference database may be sub-divided to provide various menu-choices arranged thematically or tailored to the particular user enquiry at the point of enquiry.

Suitably, the communicator enables two-way transfer of data between the network computer system and the electronic data capture device.

Suitably, any communicator employs radiofrequency or optical signals.

In one aspect, any communicator communicates directly with the gateway.

In another aspect, any communicator communicates with the gateway via a second communications device. Suitably, the second communications device is a telecommunications device, more preferably a cellular phone or pager. Suitably, the communicator communicates with the second communications device using spread spectrum radiofrequency signals. A suitable spread spectrum protocol is the Bluetooth (trade mark) standard which employs rapid (e.g. 1600 times a second) hopping between plural frequencies (e.g. 79 different frequencies). The protocol may further employ multiple sending of data bits (e.g. sending in triplicate) to reduce interference.

In one aspect, the network computer system comprises a public access network computer system. The internet is one suitable example of a public access network computer system, wherein the entrypoint can be any suitable entrypoint thereto including gateways managed by an internet service provider. The public access network computer system may also form part of a telecommunications system, which may itself be either a traditional copper wire system, a cellular system or an optical network.

In another aspect, the network computer system comprises a private access network computer system and the entrypoint is a secure gateway. The private access network system may for example, comprise an intranet or extranet which may for example, be maintained by an information service provider. The secure gateway may for example include password protection; a firewall; and suitable encryption means.

Suitably, the communicator enables communication with a user-specific network address in the network computer system. The user-specific network address may be selected from the group consisting of a web-site address, an e-mail address and a file transfer protocol address.

According to another aspect of the present invention there is provided an electronic data capture device for use with the data capture and access system described hereinabove, comprising a data capture system for locally capturing data relating to a geographic location; an electronic data manager comprising a memory for storage of said data; a microprocessor for performing operations on

the data; and a transmitter for transmitting a signal relating to the data or the outcome of an operation on the data; and a communicator for communicating with an entrypoint to a network computer system to enable transfer of the data to a user network address of the network computer system.

Suitably, the data capture system comprises a receiver for locally receiving information from the geographic location.

Suitably, the data capture system comprises a transmitter for locally transmitting information to the geographic location.

It is envisaged that data receipt / transmission will be achieved by establishing a data transfer link with a receiver / transmitter locally associated with the geographic location of interest (e.g. physically present at that location of interest).

Any local receiver or transmitter may use active systems such as infra-red, short range radio or cellular radio systems, or passive systems such as bar codes.

The geographic location can, in embodiments be adapted to transmit current information with regards for example to date, time, location and direction etc. to the reader of the data capture system.

Suitably, the data capture system comprises a reader capable of locally reading data from a radiofrequency identifier at the geographic location. The radiofrequency identifier typically comprises an antenna for transmitting or receiving radiofrequency energy and an integrated circuit chip connecting with said antenna.

The radiofrequency identifier can be any known radiofrequency identifier. Such identifiers are sometimes known as radiofrequency transponders or radiofrequency identification (RFID) tags. Suitable radiofrequency identifiers include those sold by Phillips Semiconductors of the Netherlands under the trade marks Hitag and Icode those sold by Amtech Systems Corporation of the United

States of America under the trade mark Intellitag, and those sold by Texas Instruments of the United States of America under the trade mark Tagit.

The RFID tags may be used in combination and/or integrated with other traditional product labelling methods including visual text, machine-readable text, bar codes and dot codes. Preferably, the antenna is capable of transmitting or receiving radiofrequency energy having a frequency of from 100 KHz to 2.5 GHz.

Suitably, the device additionally comprises a data input system for user input of data to the electronic data manager. More preferably, the data input system comprises a man machine interface (MMI) preferably selected from a keypad, voice recognition interface or graphical user interface (GUI).

Suitably, the device additionally comprises a geographic positioning system such as a global positioning system or a system which relies on the use of multiple communications signals and a triangulation algorithm.

Suitably, the device additionally comprises a device orientation determining system, that is to say a system for determining the orientation of the device relative to a fixed axis. A compass is an example of such an orientation determining system.

Suitably, the device additionally comprises a date and time recordal system.

Suitably, the device comprises optical or visual data capture means such as a digital camera. The device may also comprise an optical character recognition capability such that any characters which are optically captured may be recognised as words, phrases or logos. The so-recognised words, phrases or logos may be associated with particular business areas or brands and appropriate business or brand identifiers assigned.

Suitably, the device additionally comprises a datalink for linking to a local data store to enable communication of data between the local data store and the electronic data manager. Suitably, the datalink comprises an infrared emitter and

sensor. Preferably, the local data store comprises a personal computer or set-top box.

Suitably, the device additionally comprises a display for display of data from the electronic data manager to the user. The display may for example, comprise a screen such as an LED or LCD screen

Suitably, the communicator enables two-way transfer of the data between the network computer system and the electronic data manager.

Suitably, the communicator employs radiofrequency or optical signals.

Suitably, the communicator communicates directly with the network computer system.

Suitably, the communicator communicates with the network computer system via a second communications device. Suitably, the second communications device is a telecommunications device. Preferably, the telecommunications device comprises a cellular phone or pager.

Suitably, the communicator communicates with the second communications device using spread spectrum radiofrequency signals, for example using the Bluetooth (trade mark) protocol as hereinbefore described.

According to a further aspect of the present invention there is provided a method for capturing information relevant to a geographic location comprising locally capturing data relevant to the location in electronic form; communicating with an entrypoint to a remote network computer system to enable transfer of said data to a user-specific network address of said remote network computer system; and permitting a user to access the data at said user-specific network address via a secure access gateway.

In one aspect, the method comprises communicating wirelessly with said entrypoint to the network computer system.

In another aspect, the method comprises communicating via a wired link with said entrypoint to the network computer system.

Suitably, the method comprises communicating the data in encrypted form.

In one aspect, the data is continuously communicable.

In another aspect, the data is communicable in packet form.

The method may in aspects additionally comprise generating geographic position data relevant to the location (of data capture). In one aspect, the data is generated locally (e.g. by a local geographic positioning system on an electronic data capture device). In another aspect, the data is generated by communicating with a remote network computer system (e.g. of a geographic data location determining service provider) such as via a telecommunications link.

According to a further aspect of the present invention there is provided a network computer system for use with the system described above comprising a user-specific network address; associated with said user-specific network address, a data controller unit capable of receiving captured data in electronic form; associated with said controller unit, a user database for storing said captured data; a secure access gateway to said user-specific network address permitting access thereto in response to an authorised user command; search means associated with the controller unit for searching said user database in response to an authorised user inquiry; results transmitting means associated with the controller unit for transmitting the results of said authorised user inquiry to the authorised user, wherein the captured data and the authorised user inquiry originate remotely from the network computer system.

Suitably, the user-specific network address comprises a web-site or hub on an Internet or Extranet computer system. The captured data arises from an electronic data capture device local to the user and in communication with an entrypoint to the network computer system. The authorised user inquiry originates from any suitable authorised user. The system may be configured to

allow for selective access to the captured data database dependent upon level of user authorisation.

Suitably, the network computer system additionally comprises a reference data controller unit capable of accessing data from a reference database;
reference search means associated with said reference data controller unit for searching said reference database in response to a reference inquiry; and reference results transmitting means associated with the reference controller unit for transmitting the results of said reference inquiry to the authorised user.

Suitably, a link exists between any datapoint or group of datapoints in the captured data database and any datapoint or group of datapoints in the reference data database.

Embodiments of systems according to the invention will now be described with reference to the accompanying drawings in which:

Figure 1. is a schematic representation of a system in accord with the present invention;

Figure 2. is a schematic flow-chart representation of a system in accord with the present invention;

Figure 3 is a schematic flow-chart representation of a captured data retrieval system in accord with the present invention;

Figure 4 is a schematic flow-chart representation of a user portal system in accord with the present invention;

Figure 5 is a schematic flow-chart representation of a site owner portal registration system in accord with the present invention; and

Figure 6 is a schematic flow chart representation of active and passive systems in accord with the present invention.

Figure 1. shows street scene 10 in which a particular shop 12 is located. User 20 is located within the street scene and carries handheld electronic data capture device 30. A transmitter 40 located on the shop 12 locally transmits data to the electronic data capture device 30. The data capture occurs in response to a user-initiated request for the device 30 to collect data from the transmitter 40 on the shop 12. At a 'base station' 50 the user uploads the captured data to a personal computer 52 and thence via hard-wired modem communications link 60 to a network computer system 70. Physically, the network computer system 70 is remote from the base station 50 of the user and has access to various system servers 72 and to a main datastore 80. The main datastore 80 includes data relating to the shop business 12 of interest. An alternative means of communicating data from the electronic data capture device 30 to the network 70 is provided by wireless (e.g. WAP) communications link 62 direct from the device 30.

In use, the transmitter 40 on the shop 12 transmits data to the electronic data capture device 30 in response to a user request. The captured data is then communicated to the user's address on the network computer system 70 via the base station 50 and hard-wired link 60 or directly via the wireless communications link 62. Links are provided between the captured data and the data in the main datastore 80. The user may therefore link via the network 70 into the main datastore 80 to access more information about the shop 12 of interest.

Figure 2 further illustrates a method herein. In a data capture part of the method, the user starts 110 the data capture process by activating 112 the mobile data capture device. The device captures location and other available data at the location of interest 120 and records the time of data capture (e.g. via reference to an internally-located clock). After an elapse of time 122, the user uploads the captured data 130 to a system server on a network computer system. In an alternative herein where the mobile data capture device includes wireless communication means (as in Figure 1) the captured data 130 may also be continuously uploaded to the system server by wireless data transfer. The data is stored 132 in a private user area on the network. In a data access part of the

method, the user accesses the data on the private area 140 and uses this to reference data in a main location database 180.

In an earlier part of the method, a supplier 190 uploads data relating to his business to the system server 192. The uploaded data is archived 194 on the main location database such that it is accessible on user enquiry to the main location database 180.

Figure 3 shows a flowchart of a captured data retrieval system herein which allows a user to browse, retrieve and manipulate captured data and any links provided therefrom. The user first logs on to a portal 2100, typically having provided log on data in response to identification and security questions. The user then accesses the location database 2102 which enables browsing to allow for selection of a particular location/time item 2104. In response to the user selection, the portal displays a view of the location 2106. If this does not meet the user's acceptance another item is selected 2108, but if the selection is user-acceptable the user selects 2110 the site of interest. The site is then both stored as a user favourite 2112 in the user datastore and the site record (i.e. a datastore which is specific to the site rather than to the user) is updated with a 'hit' and user reference 2114.

If the site of interest has a link (e.g. a URL or hyperlink) associated with it, the user is offered the opportunity to be directed to that site 2116. In one aspect, the link may be to a 'home page' of the site of interest. In another aspect, the link may be to an 'offer page' associated with the site of interest. An example of an 'offer page' might be where the site of interest is a restaurant and the 'offer page' provides a coded reference which enables the user to obtain discounts or special deals at that restaurant. If the user accepts the opportunity to be directed to the linked site, all further user interaction will typically be with that site (point C) 2118 until the user chooses to return to the portal 2100, but if the user declines the opportunity further site selection steps will be offered 2120. Refusal of these will typically result in the user being directed to a menu screen 2122 (Point D) allowing the user either to exit from the portal or for other browsing choices.

Figure 4 shows further aspects of a user portal access system herein. The user either logs in afresh 3100 or is directed back to the user portal 3122 (Point D) having declined the opportunity to exit 3124. The user selects from a location facilities menu 3126.

A first menu choice 3130 enables the user to browse at random and to select a site of interest 3110. Any selected site is stored as a user favourite 3112 in the user datastore. If the site offers a special offer 3118, the user chooses whether to accept or not. If the user accepts, all further user interaction will typically be with that site (point C) 3118 until the user chooses to return to the portal 3100.

A second menu choice 3140 enables the user to select a favourite (e.g. from the user datastore). If the site of interest has a link (e.g. a URL or hyperlink) associated with it, the user is offered the opportunity to be directed to that site 3116 or to a targeted special offer. If both offers are declined, the user is returned to an entry menu screen (Point D) 3123. If the offer to vist the site is accepted, the user is directed to the site 3142. If the special offer is accepted, the user is directed to a targeted special offer on screen 3150.

The targeted special offer screen 3150 may also comprise the third menu choice. If the user accepts the special offer, a payment verification process is initiated involving credit verification 3152; transaction completion 3154; and retailer update 3156 steps.

Figure 5 shows a flow-chart representation of the steps a location site owner would take to register with a portal (e.g. of the type described in Figures 3 and 4 above). The site owner can select any of three kinds of registration 4160. In the first registration option, the site owner registers a URL (i.e. identifier) with the site and selects a charging option 4164. A URL (i.e. identifier) associated with the geographic (e.g. physical) location of the site 4166 is then associated with its virtual location on the portal 4166. This ensures that if a user types in a site location identifier (e.g. captured at that site) a link will exist with that site's URL identifier on the portal. A contract is issued (possibly electronically). The site owner is then given the option 4169 as to whether to register a special offer on the portal 4172.

The special offer registration option 4172 is also available if the site owner has no particular URL identifier 4170. A third registration option is offered where the site owner wishes to establish an e-business capability on the portal itself by enabling an online shop to be associated with the portal 4180. If this option is selected the shop is populated 4182 (e.g. by placing offers for sale on the shop-site) and a credit capability established 4184. The site owner may also choose to register a special offer 4186 with the portal for one or more sales offerings of the online shop.

In business method aspects herein, it is envisaged that revenue may be generated by the portal owner/manager by a number of mechanisms inlcuding:

1. Charging the user to access the portal (either on a per download or subscription basis);

2. Charging the site owner to register a location on the portal (either on a per user view or subscription basis);

3. Charging the site owner to register a special offer on the portal (either on a per user view or subscription basis); and

4. In online shop embodiments herein, charging a commission/royalty on each sales transaction of the shop.

Figure 6 shows in schematic form 'active' and 'passive' data capture options in accord with the present invention. The user initially sees a site of interest 510 and then selects either an 'active' or 'passive' data capture device 512. If the user selects the 'passive' option, a data capture sequence is initiated 518a by the user keying in instructions. Location data is then captured by the device and time data generated. Both sets of data are stored on the device 520. In a later step, the captured data are downloaded (e.g. as in Figure 2) to a network computer system.

If the user selects the 'active' data capture option, the data capture is also initiated by a user keying-in step 518b, but this also results in the opening of a communications link with a service provider 522, typically remotely located. The service provider then determines the location of the device and establishes other relevant data (e.g. time) 524. The so-determined location and time data is stored on a network computer system of the service provider in a user-specific area 526, which is accessible to the user via a portal access 528.

CLAIMS:

1. A data capture and access system for locally capturing information relevant to a geographic location and enabling access thereto comprising

a network computer system having specifiable network addresses;

remote from said network computer system, an electronic data capture device for locally capturing data relevant to the geographic location;

a communicator for communicating with an entrypoint to said network computer system to enable transfer of said data to a user network address of the network computer system, wherein said network address is specific to the user; and

a secure access gateway enabling the user to access the data at said user-specific network address.

2. A system according to claim 1, wherein said communicator communicates wirelessly with said entrypoint to the network computer system.

3. A system according to claim 1, wherein said communicator commnicates via a wired link with said entrypoint to the network computer system.

4. A system according to any of claims 1 to 3, wherein the data is communicable between the electronic data capture device and the user-specific network address of the network computer system in encrypted form.

5. A system according to any of claims 1 to 4, wherein the data is continuously communicable between the electronic data capture device and the user-specific network address of the network computer system.

6. A system according to any of claims 1 to 4, wherein the data is communicable in packet form between the electronic data capture device and the user-specific network address of the network computer system.

7. A system according to any of claims 1 to 6, wherein the secure access gateway is password protected.

8. A system according to any of claims 1 to 7, wherein the electronic data capture device captures optical or visual data.

9. A system according to any of claims 1 to 8, wherein the electronic data capture device records geographic positioning data.

10. A system according to any of claims 1 to 9, wherein the electronic data capture device records device orientation data.

11. A system according to any of claims 1 to 10, wherein the electronic data capture device records date and time data.

12. A system according to any of claims 1 to 11, wherein the electronic data capture device assigns an identifier to any data captured.

13. A system according to any of claims 1 to 12, wherein information from one or more reference databases is made available to the user-specific network address.

14. A system according to claim 13, wherein the system provides a link between any identifier assigned by the electronic data capture device and any datapoint or group of datapoints within the one or more reference databases.

15. A system according to any of claims 1 to 14, wherein the communicator enables two-way transfer of data between the network computer system and the electronic data capture device.

16. A system according to any of claims 1 to 15, wherein the communicator employs radiofrequency or optical signals.

17. A system according to any of claims 1 to 16, wherein the communicator communicates directly with the network computer system.

18. A system according to any of claims 1 to 17, wherein the communicator communicates with the network computer system via a second communications device.

19. A system according to claim 18, wherein the second communications device is a telecommunications device.

20. A system according to claim 19, wherein the telecommunications device comprises a cellular phone or pager.

21. A system according to any of claims 18 to 20, wherein the communicator communicates with the second communications device using spread spectrum radiofrequency signals.

22. A system according to any of claims 1 to 21, wherein the network computer system comprises a public access network computer system.

23. A system according to any of claims 1 to 22, wherein the network computer system comprises a private access network computer system.

24. A system according to any of claims 1 to 23, wherein the user-specific network address is selected from the group consisting of a web-site address, an e-mail address and a file transfer protocol address.

25. An electronic data capture device for use with the data capture and access system according to any of claims 1 to 24, comprising

a data capture system for locally capturing data relating to a geographic location;

an electronic data manager comprising

a memory for storage of said data;

a microprocessor for performing operations on the data; and

a transmitter for transmitting a signal relating to the data or the outcome of an operation on the data; and

a communicator for communicating with an entrypoint to a network computer system to enable transfer of the data to a user network address of the network computer system.

26. A device according to claim 25, wherein the data capture system comprises a receiver for locally receiving information from the geographic location.

27. A device according to either of claims 25 or 26, wherein the data capture system comprises a transmitter for locally transmitting information to the geographic location.

28. A device according to either of claims 26 or 27, comprising a reader capable of locally reading data from a radiofrequency identifier at the geographic location.

29. A device according to any of claims 25 to 28, additionally comprising a data input system for user input of data to the electronic data manager.

30. A device according to any of claims 25 to 29, additionally comprising a geographic positioning system.

31. A device according to any of claims 25 to 30, additionally comprising a device orientation determining system.

32. A device according to any of claims 25 to 31, additionally comprising a date and time recordal system.

33. A device according to any of claims 25 to 32, wherein the data capture system comprises optical or visual data capture means.

34. A device according to claim 33, additionally comprising an optical character recognition system.

35. A device according to any of claims 25 to 34, additionally comprising a datalink for linking to a local data store to enable communication of data between the local data store and the electronic data manager.

36. A device according to claim 35, wherein the datalink comprises an infrared emitter and sensor.

37. A device according to either of claims 35 or 36, wherein the local data store comprises a personal computer or set-top box.

38. A device according to any of claims 25 to 37, additionally comprising a display for display of data from the electronic data manager to the user.

39. A device according to any of claims 25 to 38, wherein the communicator enables two-way transfer of the data between the network computer system and the electronic data manager.

40. A device according to any of claims 25 to 39, wherein the communicator employs radiofrequency or optical signals.

41. A device according to any of claims 25 to 40, wherein the communicator communicates directly with the network computer system.

42. A device according to any of claims 25 to 41, wherein the communicator communicates with the network computer system via a second communications device.

43. A device according to claim 42, wherein the second communications device is a telecommunications device.

44. A device according to claim 43, wherein the telecommunications device comprises a cellular phone or pager.

45. A device according to any of claims 42 to 44, wherein the communicator communicates with the second communications device using spread spectrum radiofrequency signals.

46. A method for capturing information relevant to a geographic location comprising

locally capturing data relevant to the location in electronic form;

communicating with an entrypoint to a remote network computer system to enable transfer of said data to a user-specific network address of said remote network computer system; and

permitting a user to access the data at said user-specific network address via a secure access gateway.

47. A method according to claim 46, comprising communicating wirelessly with said entrypoint to the network computer system.

48. A method according to claim 47, comprising communicating via a wired link with said entrypoint to the network computer system.

49. A method according to any of claims 46 to 48, comprising communicating the data in encrypted form.

50. A method according to any of claims 46 to 49, wherein the data is continuously communicable.

51. A method according to any of claims 46 to 50, wherein the data is communicable in packet form.

52. A method according to any of claims 46 to 51, additionally comprising generating geographic position data relevant to the location.

53. A method according to claim 52, wherein the geographic position data is generated locally.

54. A method according to claim 53 wherein the geographic position data is generated by communicating with a remote network computer system.

55. A network computer system for use with the data capture and access system according to any of claims 1 to 24 comprising

a user-specific network address;

associated with said user-specific network address, a data controller unit capable of receiving captured data in electronic form;

associated with said controller unit, a user database for storing said captured data;

a secure access gateway to said user-specific network address permitting access thereto in response to an authorised user command;

search means associated with the controller unit for searching said user database in response to an authorised user inquiry; and

results transmitting means associated with the controller unit for transmitting the results of said authorised user inquiry to the authorised user,

wherein the captured data and the authorised user inquiry originate remotely from the network computer system.

56. A network computer system according to claim 55, additionally comprising

a reference data controller unit capable of accessing data from a reference database;

reference search means associated with said reference data controller unit for searching said reference database in response to a reference inquiry; and

reference results transmitting means associated with the reference controller unit for transmitting the results of said reference inquiry to the authorised user.

57. A system according to claim 56, wherein a link exists between any datapoint or group of datapoints in the captured data database and any datapoint or group of datapoints in the reference data database.

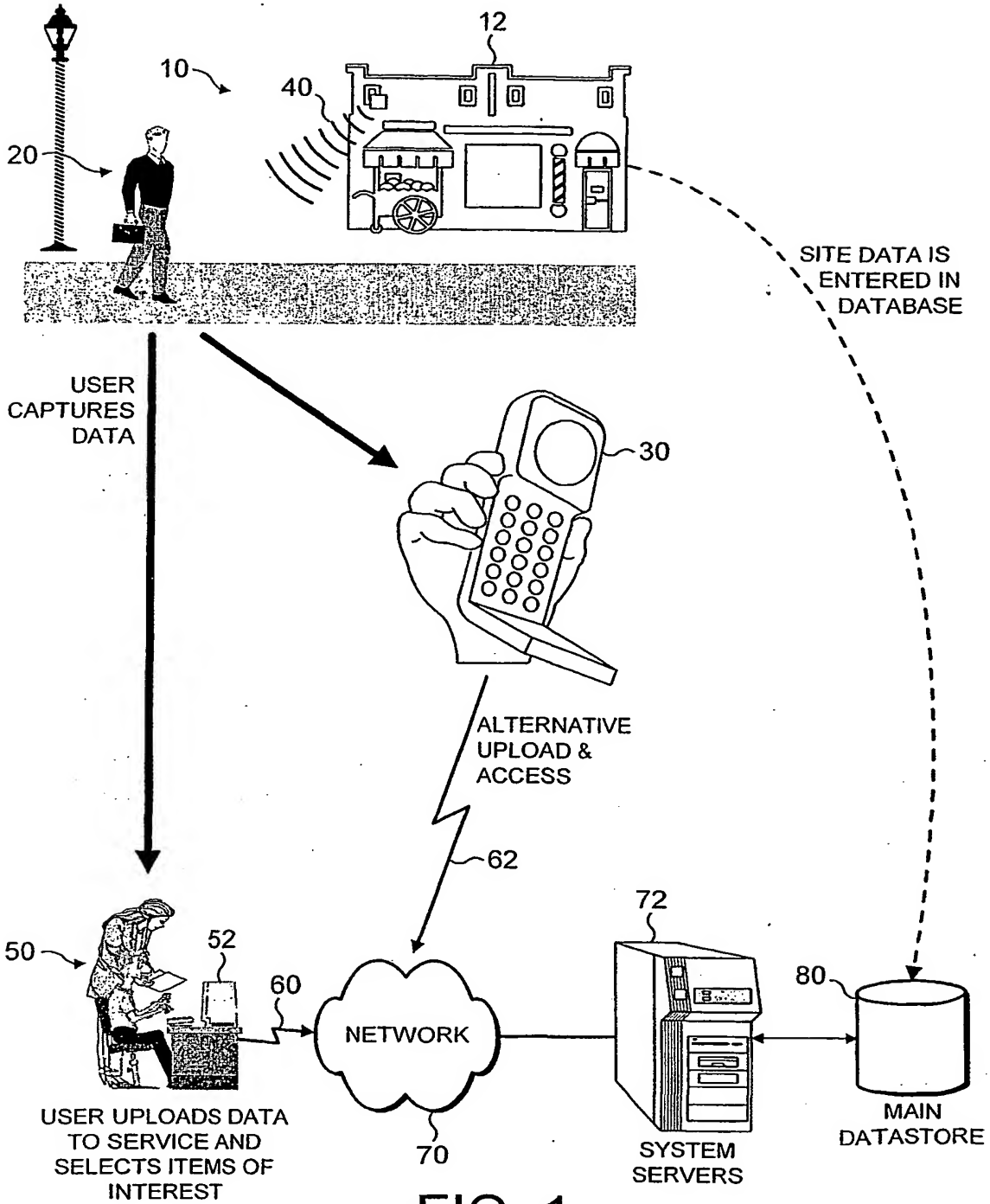
12
10
40
20
SITE DATA IS ENTERED IN DATABASE
USER CAPTURES DATA
30
ALTERNATIVE UPLOAD & ACCESS
62
72
50
52
60
NETWORK
80
MAIN DATASTORE
USER UPLOADS DATA TO SERVICE AND SELECTS ITEMS OF INTEREST
70
SYSTEM SERVERS

FIG. 1

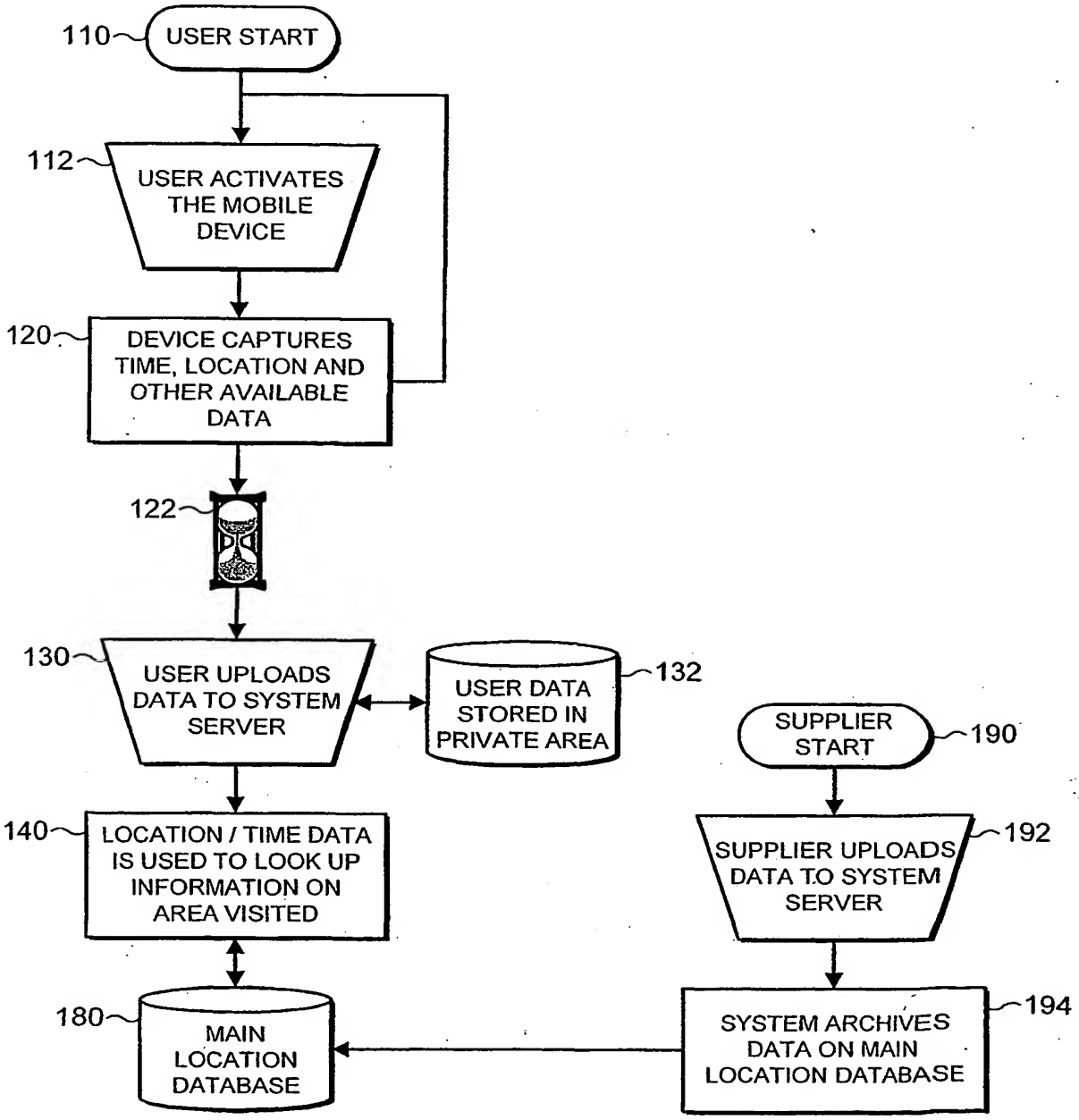
110
USER START
112
USER ACTIVATES THE MOBILE DEVICE
120
DEVICE CAPTURES TIME, LOCATION AND OTHER AVAILABLE DATA
122
130
USER UPLOADS DATA TO SYSTEM SERVER
USER DATA STORED IN PRIVATE AREA
132
SUPPLIER START
190
140
LOCATION / TIME DATA IS USED TO LOOK UP INFORMATION ON AREA VISITED
SUPPLIER UPLOADS DATA TO SYSTEM SERVER
192
180
MAIN LOCATION DATABASE
SYSTEM ARCHIVES DATA ON MAIN LOCATION DATABASE
194

FIG. 2

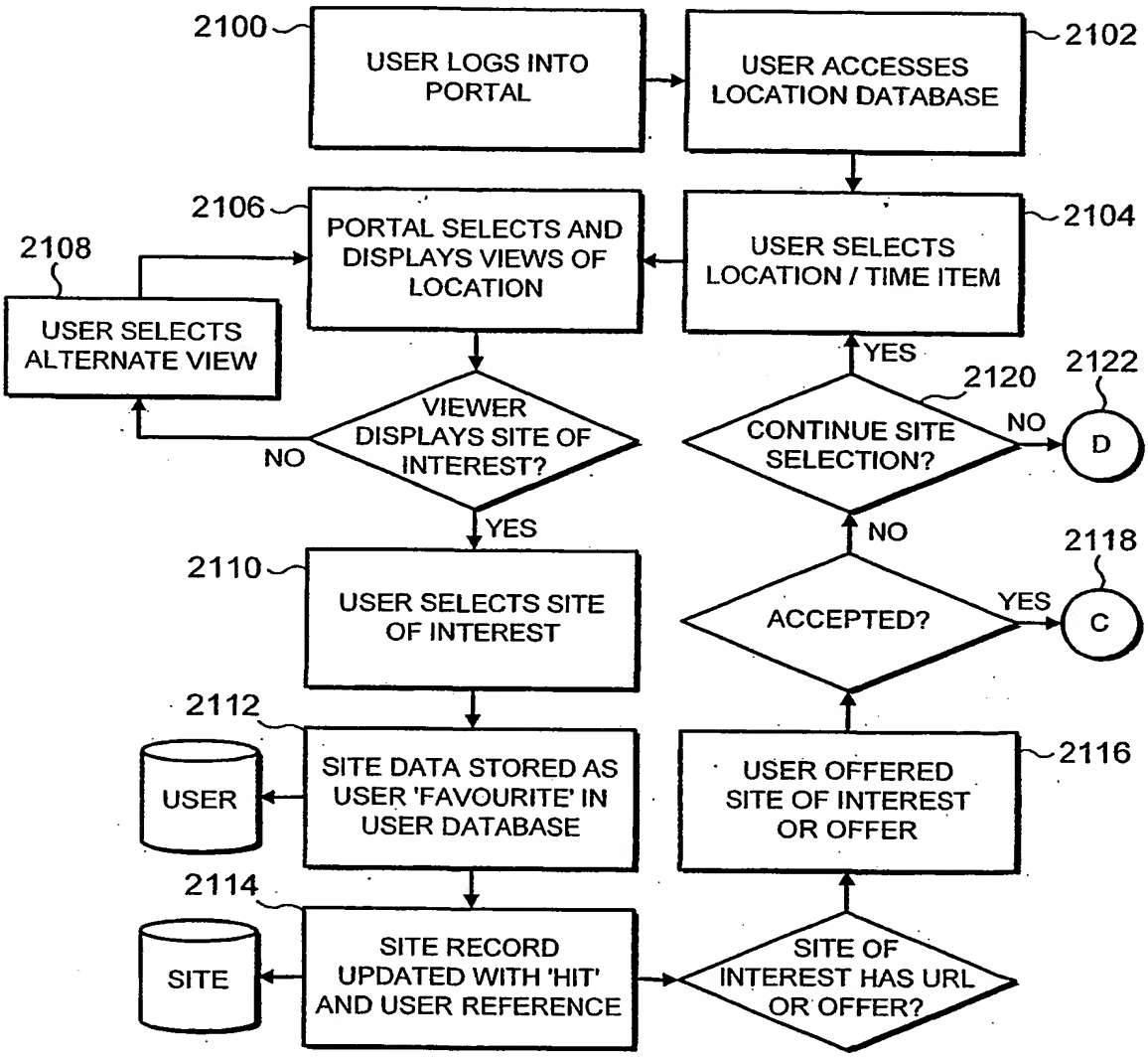
2100
USER LOGS INTO PORTAL
USER ACCESSES LOCATION DATABASE
2102
2106
PORTAL SELECTS AND DISPLAYS VIEWS OF LOCATION
USER SELECTS LOCATION / TIME ITEM
2104
2108
USER SELECTS ALTERNATE VIEW
YES
2120
2122
VIEWER DISPLAYS SITE OF INTEREST?
CONTINUE SITE SELECTION?
NO
D
NO
YES
NO
2118
2110
USER SELECTS SITE OF INTEREST
ACCEPTED?
YES
C
2112
USER
SITE DATA STORED AS USER 'FAVOURITE' IN USER DATABASE
USER OFFERED SITE OF INTEREST OR OFFER
2116
2114
SITE
SITE RECORD UPDATED WITH 'HIT' AND USER REFERENCE
SITE OF INTEREST HAS URL OR OFFER?

FIG. 3

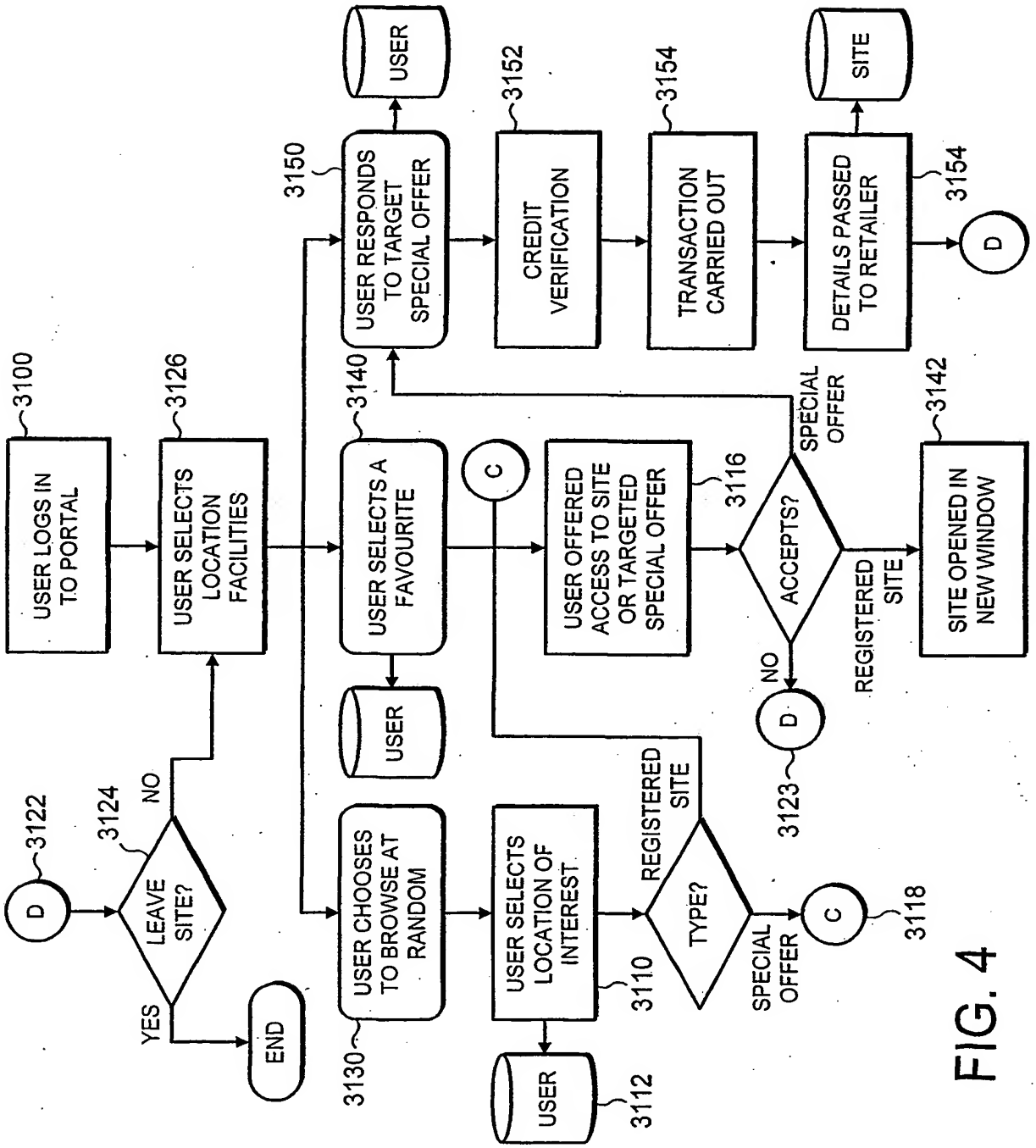
USER LOGS IN TO PORTAL
3100
USER SELECTS LOCATION FACILITIES
3126
USER SELECTS A FAVOURITE
3140
USER
USER RESPONDS TO TARGET SPECIAL OFFER
3150
USER
CREDIT VERIFICATION
3152
TRANSACTION CARRIED OUT
3154
DETAILS PASSED TO RETAILER
3154
SITE
D
C
USER OFFERED ACCESS TO SITE OR TARGETED SPECIAL OFFER
3116
ACCEPTS?
SPECIAL OFFER
NO
REGISTERED SITE
SITE OPENED IN NEW WINDOW
3142
D
3123
D
3122
LEAVE SITE?
3124
NO
YES
END
USER CHOOSES TO BROWSE AT RANDOM
3130
USER SELECTS LOCATION OF INTEREST
3110
REGISTERED SITE
TYPE?
SPECIAL OFFER
C
3118
USER
3112

FIG. 4

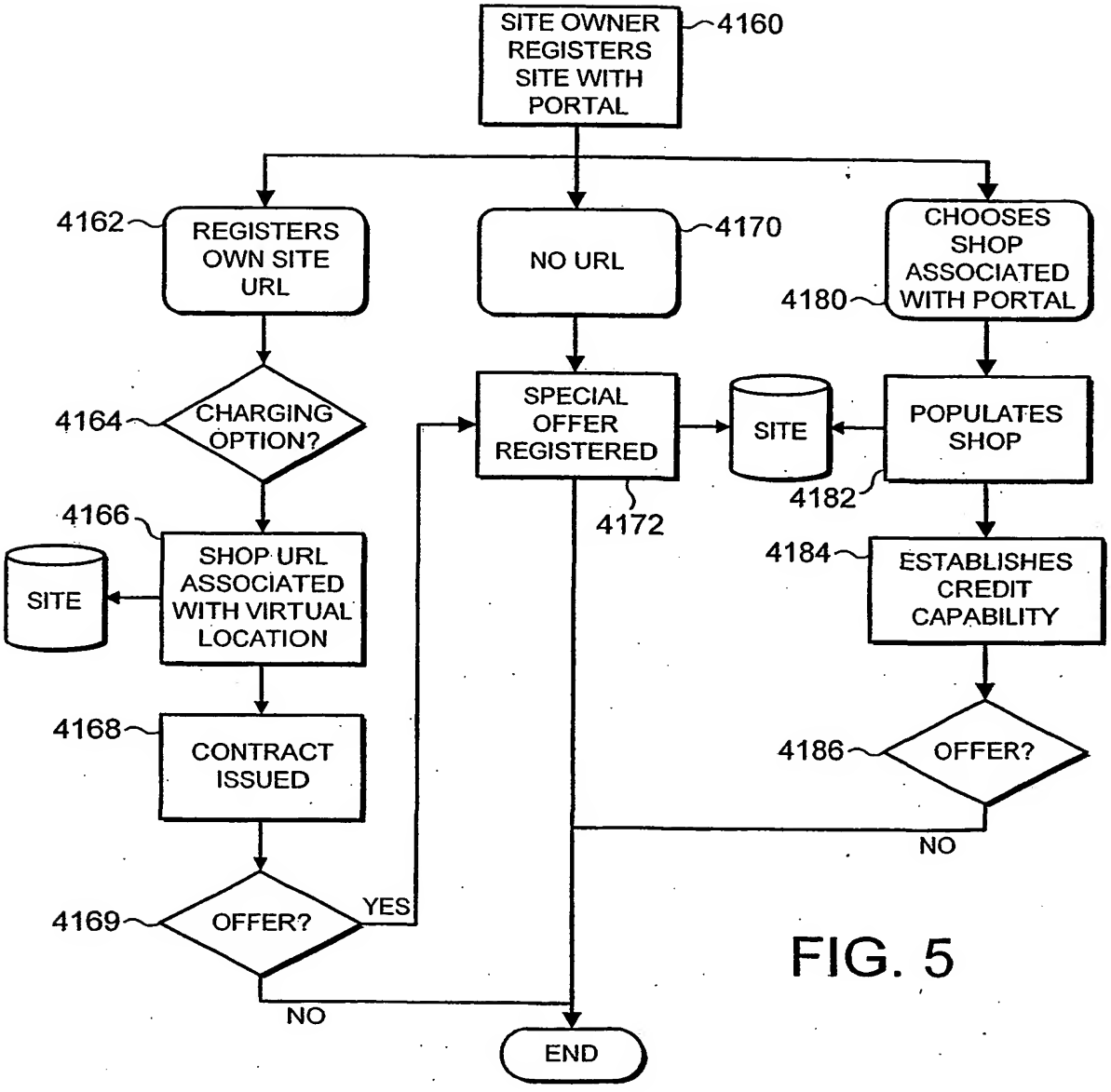
SITE OWNER REGISTERS SITE WITH PORTAL
4160
4162
REGISTERS OWN SITE URL
NO URL
4170
CHOOSES SHOP ASSOCIATED WITH PORTAL
4180
4164
CHARGING OPTION?
SPECIAL OFFER REGISTERED
SITE
POPULATES SHOP
4172
4182
4166
SHOP URL ASSOCIATED WITH VIRTUAL LOCATION
SITE
4184
ESTABLISHES CREDIT CAPABILITY
4168
CONTRACT ISSUED
4186
OFFER?
NO
4169
OFFER?
YES
NO
END

FIG. 5

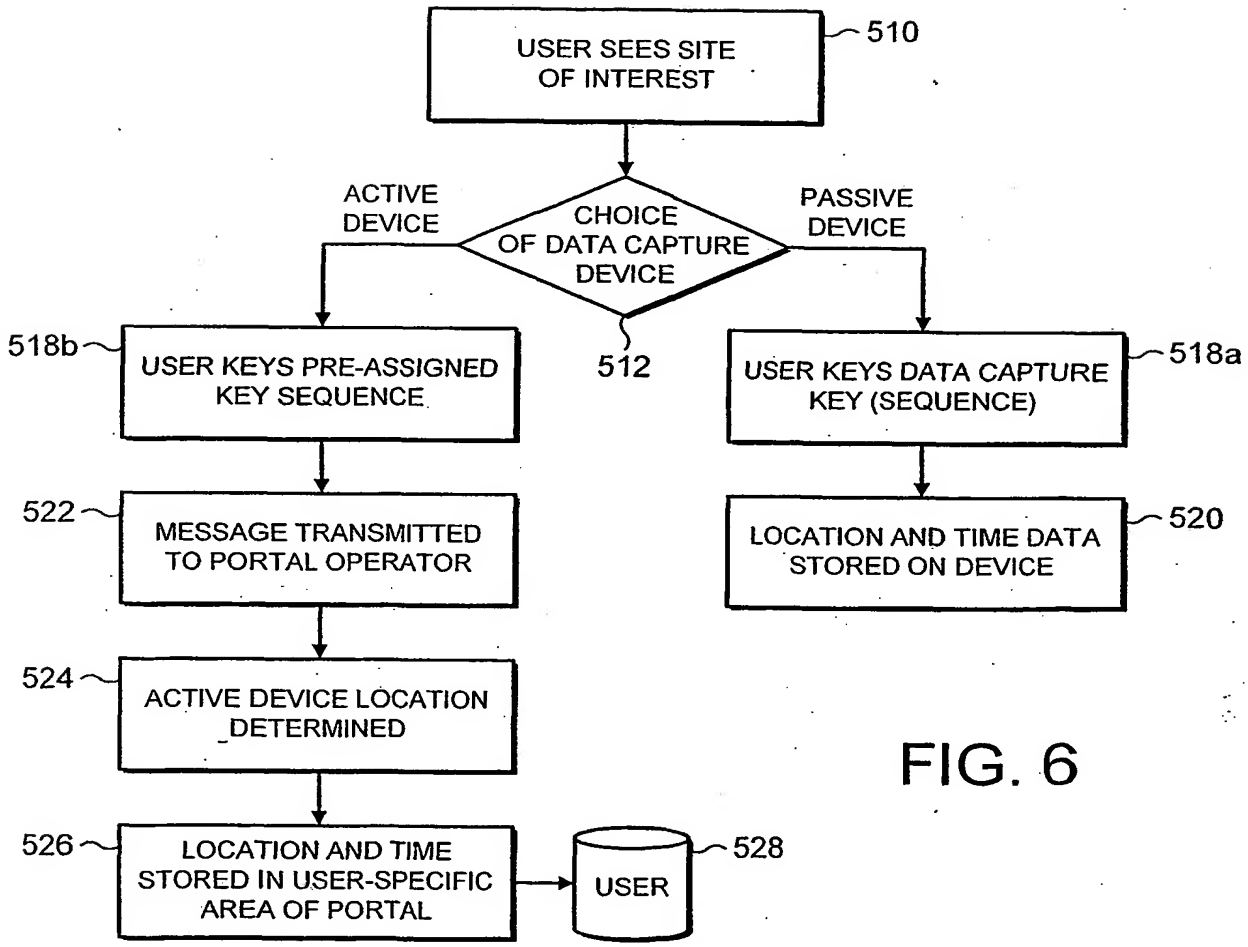
USER SEES SITE OF INTEREST
510
ACTIVE DEVICE
CHOICE OF DATA CAPTURE DEVICE
PASSIVE DEVICE
512
518b
USER KEYS PRE-ASSIGNED KEY SEQUENCE
518a
USER KEYS DATA CAPTURE KEY (SEQUENCE)
522
MESSAGE TRANSMITTED TO PORTAL OPERATOR
520
LOCATION AND TIME DATA STORED ON DEVICE
524
ACTIVE DEVICE LOCATION DETERMINED
526
LOCATION AND TIME STORED IN USER-SPECIFIC AREA OF PORTAL
USER
528

FIG. 6

INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP 01/09276

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G06F17/30

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal, WPI Data, PAJ, IBM-TDB, INSPEC, COMPENDEX, BIOSIS

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 00 00908 A (KONINKL PHILIPS ELECTRONICS NV ;PHILIPS SVENSKA AB (SE)) 6 January 2000 (2000-01-06) abstract; figure 3 page 1, line 8 -page 3, line 3 page 3, line 17 -page 7, line 7	1-57
X	WO 00 41090 A (DEVORE KRISTI ;DURST KELLY (US); EARY MATT (US); FISHER ED (US); K) 13 July 2000 (2000-07-13) abstract; figure 1A page 1, line 22 -page 2, line 8	1-57
X	WO 99 51038 A (PICCIONELLI GREG A ;RITTMASTER TED R (US)) 7 October 1999 (1999-10-07) abstract; figure 1 page 2, line 24 -page 4, line 12	1-57

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
30 January 2002	05/02/2002

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL – 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	König, W

Form PCT/ISA/210 (second sheet) (July 1992)

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No
PCT/EP 01/09276

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 0000908 A	06-01-2000	US 6338085 B1	08-01-2002
		EP 1038244 A2	27-09-2000
		WO 0000908 A2	06-01-2000
WO 0041090 A	13-07-2000	AU 2604100 A	24-07-2000
		EP 1171828 A1	16-01-2002
		WO 0041090 A1	13-07-2000
WO 9951038 A	07-10-1999	US 6154172 A	28-11-2000
		AU 3217299 A	18-10-1999
		CN 1330770 T	09-01-2002
		EP 1090307 A2	11-04-2001
		WO 9951038 A2	07-10-1999

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(71) Applicant and
(72) Inventor: FOALE, Thomas, Reginald [GB/GB]; 8 Green Dragon Lane, Flackwell Heath HP10 9JU (GB).

(74) Agent: PIKE, Christopher, Gerard; Pike & Co., Hayes Loft, 68A Hayes Place, Marlow, Buckinghamshire SL7 2BT (GB).

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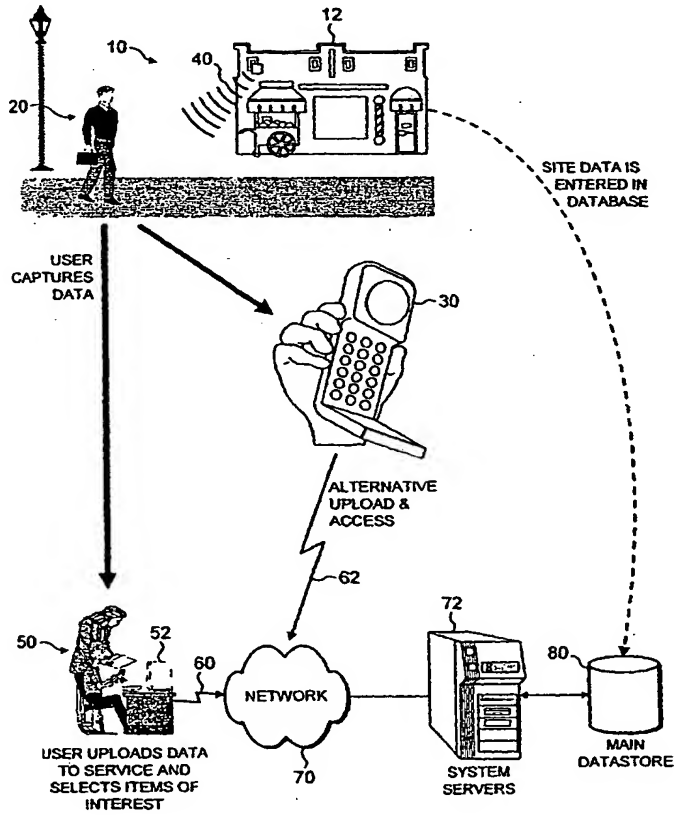
(84) Designated States *(regional)*: ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF,

[Continued on next page].

(54) Title: A SYSTEM AND METHOD FOR RETRIEVING INFORMATION RELEVANT TO A GEOGRAPHIC LOCATION



(57) Abstract: There is provided a personal data capture system for locally capturing information relevant to a particular location comprising a network computer system having specifiable network addresses; at a location remote from said network computer system, a electronic data capture device for locally capturing data relevant to the location; a communicator for communicating with an entrypoint to said network computer system to enable transfer of said data to a user network address of the network computer system, wherein said network address is specific to the user; and a secure access gateway enabling the user to access the data at said user-specific network address.

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CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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